

What is claimed is:

1. A method of allocating resources to a communication channel between a transmitter and a receiver, comprising the steps of:

5 (a) at the receiver, measuring a performance parameter of the communication channel;

(b) if the performance parameter of the communication channel indicates that the performance of the communication link is satisfactory and the channel bandwidth is less than a maximum allocatable bandwidth, then increasing the
10 channel bandwidth at the transmitter;

(c) if the performance parameter of the communication channel indicates that the performance of the communication link is unsatisfactory, then comparing, in the receiver, a signal strength indicator of a communication signal from the transmitter to a threshold;

15 (d) if the signal strength indicator of the communication signal at the receiver satisfies the threshold, then decreasing the bandwidth allocated to the communication channel between the transmitter and the receiver; and

(e) if the signal strength indicator of the communication signal at the receiver fails to satisfy the threshold, then performing at least one of increasing the
20 transmission power or reducing the user rate.

2. A method according to claim 1, wherein the signal strength indicator is the RSSI.

25 3. A method according to claim 1, wherein the step of increasing the bandwidth allocated to the communication channel comprises decreasing the coding rate applied to a communication signal at the transmitter.

4. A method according to claim 1, wherein the step of increasing the bandwidth allocated to the communication channel comprises decreasing the number of bits per symbol applied during modulation of a communication signal at the transmitter.

5

5. A method according to claim 1, wherein the step of decreasing the bandwidth allocated to the communication channel comprises increasing the coding rate applied to a communication signal at the transmitter.

10

6. A method according to claim 1, wherein the step of decreasing the bandwidth allocated to the communication channel further comprises increasing the number of bits per symbol applied during modulation of a communication signal at the transmitter.

15

7. A method according to claim 1, wherein the step of increasing the bandwidth allocated to the communication channel comprises decreasing the transmission power.

20

8. A portable communication device, comprising:
a receiver for receiving a communication signal from a remote radio transmitter over a communication channel;
a control unit connected to the receiver and including:

(a) means for measuring a performance parameter of the communication channel;

25

(b) means for generating a signal instructing the remote transmitter to increase the channel bandwidth if the performance parameter of the communication channel indicates that the performance of the communication channel is satisfactory

and the channel bandwidth is less than a maximum allocatable bandwidth;

(c) means for comparing a signal strength indicator of a communication signal from the remote radio transmitter to a threshold;

5 (d) means for generating a signal instructing the remote transmitter to increase the channel bandwidth if the signal strength indicator of the communication signal from the remote radio transmitter satisfies the threshold; and

(e) means for performing at least one of increasing the transmission power or reducing the user rate if the signal strength indicator of the communication signal at the receiver fails to satisfy the threshold.

10

9. A portable communication device according to claim 8, wherein the signal strength indicator is the RSSI.

15

10. A portable communication device according to claim 8, wherein the means for generating a signal instructing the remote transmitter to increase the channel bandwidth generates a signal instructing the remote transmitter to decrease the coding rate applied to a communication signal.

20

11. A portable communication device according to claim 8, wherein the means for generating a signal instructing the remote transmitter to increase the channel bandwidth generates a signal instructing the remote transmitter to decrease the number of bits per symbol applied during modulation of a communication signal.

25

12. A portable communication device according to claim 8, wherein the means for generating a signal instructing the remote transmitter to decrease the channel bandwidth generates a signal instructing the remote transmitter to increase the coding rate applied to a communication signal.

13. A portable communication device according to claim 8, wherein the means for generating a signal instructing the remote transmitter to decrease the channel bandwidth generates a signal instructing the remote transmitter to increase the number of bits per symbol applied during modulation of a communication signal.

5

14. A portable communication device according to claim 8, wherein the means for generating a signal instructing the remote transmitter to increase the channel bandwidth generates a signal instructing the remote transmitter to decrease the transmission power.

10

15. A computer program product for allocating resources to a communication channel between a transmitter and a receiver, comprising:

computer-readable storage medium having computer-readable program code means embodied in said medium, said computer-readable program code means including:

15

computer-readable program code means for measuring a performance parameter of the communication channel;

computer-readable program code means for generating a signal instructing the remote transmitter to increase the channel bandwidth if the performance parameter of the communication channel indicates that the performance of the communication channel is satisfactory and the channel bandwidth is less than a maximum allocatable bandwidth;

20

computer-readable program code means for comparing a signal strength indicator of a communication signal from the remote radio transmitter to a threshold;

25

computer-readable program code means for generating a signal instructing the remote transmitter to increase the channel bandwidth if the signal

strength indicator of the communication signal from the remote radio transmitter satisfies the threshold; and

computer-readable program code means for performing at least one of increasing the transmission power or reducing the user rate if the signal strength indicator of the communication signal at the receiver fails to satisfy the threshold.

5